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ABSTRACT

The faculty of the University of Central Florida, College of Education, provides a holistic approach to the education of teacher candidates relative to educational technologies. A required course for all education majors integrates all forms of educational media, including microprocessors, into a body of instruction and skill development. The course informs students on how to select from, and correctly use, current technologies in an educational setting. No computer programming is taught, though there is a special emphasis on software evaluation and word processing. Students develop technologies in relationship to classroom instruction and student learning; including interactive videodisks, input and storage devices. The course is designed to evolve with emerging educational technologies, eliminating the need to design new courses of instruction or components of instruction (within courses) specific to each new emerging technology. This paper presents some facets of the course, its functioning, and its objectives. It also provides information sufficient for participants to use in discussing or developing similar courses in other settings. (JD)

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EDUCATIONAL TECHNOLOGIES:

A UNIFIED AND FLUID APPROACH

Timothy J. Sullivan

SP 026 150

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Educational Technologies: A Unified and Fluid Approach

The faculty of the University of Central Florida, College of Education, has committed itself to providing a holistic approach to the education of teacher candidates relative to educational technologies. They have designed a course required for all education majors, and it has been in place since 1984. It integrates all forms of instructional media, including microprocessors, into a body of instruction and skill development.

The course attempts to show students how to select from, and correctly utilize, current technologies in an educational setting. It includes a special emphasis on CAI and CMI, data banks, modem usage and linkage. No computer programming is taught, though there is a special emphasis on software evaluation and wordprocessing.

Students are exposed to developing technologies in relationship to classroom instruction and student learning; including interactive videodisks, input and storage devices. The course is designed to evolve with emerging educational technologies, as opposed to having to design new courses of instruction or components of instruction (within courses) specific to each new emerging technology.

This paper will attempt to present some facets of the Applications of Technology in Education course, its functioning, and objectives. Further, it will provide information sufficient for participants to utilize in discussing or developing similar courses in other settings.

Course Title: Applications of Technology in Education (Three Semester Hours)

Course Catalog Description: Classroom applications of instructional media including computers. Includes experiences with equipment, commercial and teacher-made media and their uses.

Course Materials: While no text book is required, students are required to read readings as assigned. Students need to purchase materials for media production (estimated cost $25 to $45).

General Course Objectives - by the end of the course each student is able to:

1. Analyze instructional plans to determine if the use of instructional technology may contribute to efficient and effective teaching and learning.

2. Select hardware and software appropriate to the objectives of instructional plans.

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3. Design and produce appropriate instructional materials, using a minimum of eight (8) types of production and presentation technology, including but not limited to -

A. Overhead projector
B. Slide projector
C. Slide/tape projector
D. Visual maker
E. Film strip projector
F. 16MM film projector
G. Video tape equipment
H. Lamination equipment

4. Utilize a microcomputer for -

A. Word processing
B. Classroom administrative tasks (grading and record keeping)
C. Instructional assistance
D. Simulation learning experiences
E. Decision making and problem solving
F. Data base access
G. Communication

5. Locate sources useful in procuring technological materials for the classroom.

6. Devise and apply evaluation criteria in the selection and use of equipment and materials.

7. Describe the value of instructional technology for classroom teachers.

Laboratories

A media production laboratory and a microcomputer laboratory are provided. Laboratories are reserved for classes (in addition to this class). When they are not in use by classes the laboratories are "open" for individual student use. An assistant may be available to help students with equipment.

Organization of the Course

During each week of the course there are lectures and/or presentations, and time for beginning laboratory projects. Laboratory time is an integral part of class time and students are required to be in attendance. In addition to scheduled class time, students are required to spend 5 to 6 hours per week in and out of the laboratory preparing materials and learning computer skills.

Students work individually, in pairs or in groups of three. Grouping is for effective learning, mutual support and efficient equipment utilization. While group work is allowed and encouraged each student must produce his/her own material and be graded individually.

Course Assignments

1. Selection and evaluation of computer software

Copies of an evaluation sheet to be utilized in evaluating software and a list of the software required for evaluation are included in a course materials packet which students are required to purchase at the university bookstore. Each piece of software is evaluated carefully and the results of the evaluation recorded on an individual evaluation sheet. Students are required to evaluate a minimum of thirty (30) pieces of software. Extensive instruction is given relative to the identification, evaluation and utilization of appropriate computer software.

2. Word processing knowledge and skills

All tests relative to word processing knowledge and skills require the use of a specifically designated word processing program. All students are required to complete a minimum of ten (10) hours of time in the computer laboratory, outside of class time, becoming familiar with word processing. This time is in addition to time spent in the computer laboratory evaluating software or in the media laboratory completing other assignments.

Students become familiar and skilled with the following wordprocessing skills:

Loading a program	Viewing a screen
Formatting a disk	Erasing
Initializing a disk	Hyphenation (hard and soft)
Calling a directory	Utilizing operating modes
Printing	Moving lines of text
Deleting	Recalling a file
Inserting	Searching and replacing
Tabulation	Forcing pages
Formatting a document	Using dot commands
Saving a file on disk	Merging files

Some students may be familiar with word processing programs other than the designated word processing program. Some students may wish to become familiar with other word processing programs. These students visit with the instructor early in the course to discuss alternate requirements.

Students are given in-class assignments to help familiarize them with word processing and micro computers in general.

3. Video cassette recorder and camera

A complete video cassette system (Beta) is set up in the media laboratory. Each student learns to:

Turn on the system
Load the cassette tape
Focus the camera (pan and tilt)
Record

Utilize the lens "zoom feature"
Rewind and play back the tape
Shut off and store the system
Know the difference between "Beta" and "VHS" formats

4. Transparency production

Students produce transparencies which can be utilized in other classes (micro-teaching situations are ideal). Thought is given to the content of the materials to be produced rather than just producing materials to meet course requirements and wasting expensive materials.

Each student produces the following:

1. Utilizing the "Print Shop" program for the Apple IIe computer, a "poster" is produced (8.5" x 11"). The poster is then photostatically copied to make a transparency.

2. Utilizing transparency pens a transparency is produced and mounted in a frame and an overlay is designed and affixed to the frame.

3. Utilizing a layout which is produced with mechanical assistance (including instant lettering, rulers, guides, stencils, etc.) an educational transparency is produced.

5. Dry mounting

Students dry mount items which can be utilized in other classes (micro-teaching situations are ideal). Thought is given to the content of the materials to be produced rather than just producing materials to meet course requirements and wasting expensive materials.

6. Laminating

Students laminate items which can be utilized in other classes (micro-teaching situations are ideal). In addition, they laminate one item which has previously been dry mounted.

7. Film strip, 16mm, slide and overhead projectors

Students become familiar and skilled with the following:

Selecting appropriate media to utilize with the projectors
Setting up the projectors
Cleaning the lenses and projection surfaces of the projectors
Changing a lamp in the projectors
Instructing while using a projector
Individualized and group instruction using the projectors
Storing and transporting the projectors

8. Modem and data bases

Students become familiar and skilled with the following:

Loading a modem program
Setting up the program for the microprocessor
Setting the computer(s) protocols
Saving the setup
Automatically dialing another computer
Automatically logging-on another computer
Selecting data from a data base
Saving to disk
Access files
Printing and editing
Selecting useful data bases

9. Slide-tape presentations

Students wishing to earn extra credit may produce a complete "slide-tape." A classroom lesson provides both demonstration and examples of production as well as product.

Students may select a theme for their slide-tape or be given a topic by agreement with the instructor.

Rationale

Students with a repertoire of experience in traditional and emerging technology are likely to utilize and correctly apply technology in a classroom setting, and have a predisposition toward learning about new technologies as they evolve. Further, a course which has as its foundation applications of technology in education can evolve with developing technologies.

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